

~~52.~~ (New) The method of claim 1 further comprising the step of obtaining a flow measurement in the living subject by a Doppler flow measurement.

~~53.~~ (New) The apparatus for modeling as in claim 12 wherein the means for measuring blood flow is a Doppler flow measurement device.

~~54.~~ The system of claim 23 wherein the flow measurement device is a magnetic resonance phase contrast system.

### REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on \_\_\_, and the references cited therewith.

Claims 1-29 are amended, claims 29-50 are canceled, and claims 51-54 are added; as a result, claims 1-29 and 51-55 are now pending in this application.

### Rejections Under 35 U.S.C. § 112

Claims 7, 9-11, 18, 20-22, 35, 37-39, 45, and 47-49 were rejected under section 112 for lacking an antecedent basis. The non-canceled claims have been amended herein to overcome the rejection.

### Double Patenting and Rejections Under 35 U.S.C. § 102(f)

Certain of the claims in the previous office action were rejected on double patenting and/or section 102(f) in view of co-pending application 09/243,870. That application has been abandoned in favor of the present continuation-in-part application which claims priority therefrom. Applicant believes those issues are consequently rendered moot.

### Rejections Under 35 U.S.C. § 102 and 103

The examiner has rejected certain of the previously pending claims under 35 U.S.C. 102(e) as being anticipated by Kamm (U.S. Patent No. 6,117,087). The filing date of the Kamm

patent was April 1, 1998. This application is a continuation-in-part of application 09/243,870, filed February 3, 1999, which was a continuation of provisional application 60/073,580, filed February 3, 1998. As the effective filing date of the presently pending claims is February 3, 1998, applicant respectfully requests withdrawal of the Kamm patent as a prior art reference.

The examiner has also rejected certain of the previously pending claims under 35 U.S.C. 102(b) and/or 103 in view of the Charbel #1, Charbel #2, Karplus, and Foutrakis references. In this amendment, applicant has canceled some of the rejected claims and amended others in a manner that is believed to overcome the rejections. Applicant expressly reserves the right, however, to file one or more continuation applications claiming similar subject matter as that recited by the canceled and unamended claims. Applicant has amended claims 1-11 to recite that the simulation of the circulatory system is forced with one or more flow parameters corresponding to a flow measurement obtained from the living subject, claims 12-22 have been amended to recite a means for forcing the model of the circulatory system with one or more flow parameters corresponding to a flow measurement obtained from the living subject, and amended claims 23-28 to recite a blood flow measurement device for obtaining a flow measurement from the living subject so that the model may be forced with one or more flow parameters corresponding thereto. Applicant believes that such features are neither taught nor suggested by any of the aforementioned references.

## AMENDMENT &amp; RESPONSE UNDER 37 C.F.R. § 1.116 - EXPEDITED PROCEDURE

Page 9  
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Serial Number: 09/400,365

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Title: CIRCULATION MODEL AND APPLICATIONS

**Conclusion**

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (847 432-7302) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

By their Representatives,

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**CERTIFICATE UNDER 37 CFR 1.8:** The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Box AF, Commissioner of Patents, Washington, D.C. 20231, on this 25 day of October, 2001.

Name

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